AN ITEM FACTOR ANALYSIS OF SOME VALUE DIMENSIONS AND THEIR
RELATION TO A MEASURE OF SUCCESS IN STUDENT
NURSE TRAINING

DISSERTATION

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CHAPTER I

INTRODUCTION

The origin of the study of values remains indeterminate. However, it is true that philosophy and, more recently, psychology have devoted considerable effort toward the consideration of many of the facts of value study.

It is recognized that the first known thinking in the realm of the concept of values (or valuing) was done by the philosopher. The classical thinkers of Greece and Rome have pondered the questions of "good," "truth," "evil," etc., as have their followers down through the ages.

Most notable are three characteristics of the philosophical approach. First is the exclusive use of speculative logic. Almost no scientific investigations were made. Secondly, and closely related to the first, is an almost complete absence of any form of measurement. Probably the most advanced quantification is exemplified by Bentham's "hedonistic calculus." Lastly, it may be noted that most of the efforts of philosophy were directed toward the problem of defining values. Typically, values have been considered as one of four basic types: namely, values are held as absolutes existing as eternal ideas; values may be considered as situated in objects;

values may be viewed as a function of man's mind or needs; and values may be equated with actions or acts. Many questions remain unanswered in this area concerning the origin of values, the order of values, their modification, and how relative values are to man's behavior.

The advent of psychology resulted in new efforts directed toward many of the methodological and conceptual problems of value study. The application of scientific methods and, most notably, improvement in the area of measurement with the use of psychophysical judgments, correlation and, more recently, factor analysis, has lead to progress in investigations of value systems.

A review of the psychological literature seems to indicate two major trends. One is concerned with the resolution of some basic value structure dimensions or system. The other is the subsequent application of the value structure dimensions to behaviors of individuals. The results appear to be both encouraging and discouraging.

Several studies appear to be relative to the present study; namely, those using factor analysis as a basic methodological procedure and/or those studies which are concerned with specific populations. For a more complete review of the psychological investigations the reader is referred to those of Dukes (10) and Duffy and Crissy (9).

What appears to be one of the most significant studies in terms of subsequent research has been the

Allport-Vernon Study of Values (2) based upon Spranger's six types of men: economic, social, political, aesthetic, religious and theoretical. The scale of values developed by Allport and Vernon has been frequently used. Several of the following studies have dealt with problems and questions directly related to it.

One of the earlier factorial studies is that done by Lurie (22). A number of items based upon Spranger's concept of types of men were administered to college students. Several oblique factors were obtained. Lurie concluded that the four types of individuals arrived at by the factor analysis were more plausible than Spranger's intuitively derived types. A somewhat similar study using items from the Allport-Vernon test and employing college students as the sample population was reported by Brogden(4). He obtained eleven first order and three second order factors which failed to support Spranger's theory of types of men.

Duffy and Crissy (9) found some relationship between value scores on the Allport-Vernon scale and college performance. A factor analysis of this data resulted in three factors which were in agreement with the four reported by Lurie and also corresponded with three of four factors reported by Thurstone (29). In the Duffy and Crissy study factor scores correlated

significantly with vocational interests but not with college grades or intelligence scores.

A recent study by Jones and Morris (20) appears to be interesting. Using a number of different nationalities as samples, the authors obtained ratings (or valuing) of thirteen ways to live. Two of the sample populations, one from the United States and the other from India, were factor analyzed separately. Approximately the same factor dimensions emerged in both samples although considerable differences in factor scores were evident. Morris suggests that some common value structure may be found in all biological, psychological and social systems.

A number of studies have been concerned with relating values and behavior. These investigations are a logical out-growth of psychological theory. Hull (17), for example, believed that an adequate theory for predicting behavior must contain a theory of values. Similarly, many psychologists feel that the individual strives to maximize the harmony between his own internal value systems and the situational values with which he must interact. Such harmony is evidenced by occupational choice, job satisfaction, morale level, perceptual biases and the general on-going behavior of the individual. Rosenberg (27) concludes that individuals with people-oriented values and individuals with non-people-oriented

values make different occupational choices and have different strivings for different goals. Shaffer (28) has noted a relationship between an individual's values, as measured by the Allport-Vernon scale, and his membership location in a business organization as indicated by the rank attained, length of service, size and type of organizational affiliation. Jacob (19) has pursued the question of matching student personality (which we might call values) and the institutional value climate in college.

The Problem

The present study is a combination of two approaches: the use of the factor analysis to determine a factor value structure with particular emphasis upon a specific population and the relationship of the factor dimensions to a criterion measure of the behavior of the individuals possessing the value dimensions.

Little effort appears to have been directed toward using values to predict future performance, particularly in the area to which this study is concerned. Prediction of future performance has utilized intelligence, aptitudes, background information, etc. Therefore, it would seem that a necessary first step would be the exposition of some basic value dimensions or value structure which might be considered typical of student nurses.

Such an undertaking requires, however, some definition of what constitutes a "value." Since considerable variation does exist among psychologists, some utilizing attitudes, motives, drives or needs as synonymous with values, it is felt that some operational definition might tend to resolve this semantic dilemma. Therefore, it was deemed necessary to obtain items which would facilitate the judgments which were to be made in terms of how various behavioral acts or implied behavioral acts or actions were viewed (and valued) by the respondents. It is assumed that a constellation of acts or implied actions judged similarly would constitute a general value dimension along which the individual would govern his behavior. The valued acts or actions represent to some degree the basic frames of reference for personal action and thus are deemed as representing the "values" held by the study sample of student nurses.

In attempting to follow this definition of values or valuing, it was necessary to employ a method which would permit the projection of values for analysis rather than to present certain limited prescribed concepts for evaluation.

The problem of this study may be summarized as: first, ensuring that the sample population has a maximum opportunity to express any and all values which it might

be responding to; this was to be facilitated by some form of projective expression. Secondly, it was deemed desirable to avoid a semantic problem or defining values by the use of some form of operationalism. Lastly, it was intended that judgments of the behavior acts would be subjected to factor analysis in an effort to isolate and determine what basic dimensions are present in the sample population. These dimensions would be considered as representing "values" and would be related to a criterion measure of behavior.

CHAPTER II

METHODOLOGY

Sample Population

Since it would be desirable to make any findings applicable to other populations of student nurses in training, an effort was made to enlist as many different types of training settings as possible. Three schools of nursing agreed to participate in the data collection. Two of the schools present a three year program and the other school presents a four-year program which is intended to prepare their graduates for the state board examinations for registered nurses.

The total sample population consisted of 134 student nurses in training. Each level of training and each of the three schools of nursing were approximately equally represented as indicated in Table 1.

A brief consideration of each of the schools of nursing indicates the existence of differences in the schools:

School A: A secular, university-related school of nursing. Students are admitted to training after successful completion of one year of pre-nursing college study.

School B: A church related school of nursing with an overt, formal religious structure as an integral part of the training activities. Students are admitted with no previous training or college study as a requirement for admission.

School C: A church affiliated school of nursing. Religious emphasis is not overt and in this respect School C is closer to School A. Students are admitted as in School B.

TABLE 1
NUMBER OF SUBJECTS BY YEAR IN TRAINING AND SCHOOL

School	A	B	C	Total
Year				
1	14	22	17	53
2	12	14	15	41
3	10	20	10	40
Total	36	56	42	134

All schools participated in both phases of sampling: data collection for scale development and for the final factor analysis.

Development of the Item Scale

Since it was desirable to minimize any control of expression, student nurses were asked to describe the "ideal" student nurse---a relatively unstructured concept which would permit them to project their values. More than three hundred essays, unsigned, were collected from the three participating schools. All essays were read for items. A small number of open-ended interviews were conducted.

Approximately 750 items were obtained. Items underwent minimal editing; they were expressions of only one idea or action. Judges sorted these items into 16 categories from which approximately 30 per cent of the items were selected to represent each category. A total of 275 items was used. The categories may be considered as subtests which may be named on the basis of subject content of the items as follows:

1. Activities
2. Choosing nursing career or training
3. Family-parental background
4. High school background
5. Energy expenditure (primarily toward nursing)
6. Motivation
7. Philosophy of life

8. Professionalism in nursing
9. Stress tolerance
10. Reality awareness
11. Relations with others
12. Religion
13. Social recognition
14. Self-outward (Concern for how oneself is viewed by others)
15. Morale
16. Work experience

Criterion Measure

Although the primary purpose of the study was the determination of the value dimension held by the sample population, it was felt that it would be worthwhile to explore the relation, if any, of the value dimensions to some criterion measure. Although grades made in training are commonly used as a criterion, a difficulty existed in that different grading systems are used by the participating schools and that grades per se are fairly adequately predicted by other forms of measurement. In addition, Wherry and Fryer (32) have shown that peer nominations are equal to and in some respects better than academic grades as measures of success in training programs. In order to collect peer nominations rosters were prepared for each class level for each school.

Collection of Data

Data were collected on the scale and criterion measure at the same time. Subjects were given their respective class roster and asked to anonymously indicate the three "best" and three "poorest" student nurses in their class. The item scale was then administered and subjects indicated their judgments of each item as one of nine numbers of a continuum from "poor" to "excellent". All data were collected over a two-week period. Responses to all items and the criterion score were punched on I.B.M. cards for statistical analysis.

Analysis of Data

A criterion score was developed for each individual participating in the study. The formula cited below was used:

$$\text{Criterion Score} = \frac{\text{Number of "best" votes} - \text{Number of "poorest" votes}}{\text{Number of possible votes}} .$$

The criterion scores were increased by a constant value to remove the negative criterion scores.

Since it is desirable to have subtests which are "pure" measures, two item analyses were conducted to verify the homogeneity of the original subtest categories cited

above. Results for the first item analysis indicated that some revision of most subtests was needed. Correlation coefficients of each item with its subtest (with the item absent) and the separate subtest item intercorrelations were obtained for all 16 subtests. Any item which failed to correlate positively with its own subtest and/or was negatively correlated with one or more items in the subtest was removed from the subtest. On occasion two clusters of item intercorrelations would appear within a given subtest indicating that these item clusters should each represent a separate subtest.

A second item analysis based upon the items in subtests from the first item analysis was performed. These 16 subtests contained items which met the following criteria: (1) all items correlated positively with the subtest to which they belonged; (2) all items correlated positively with all other items in the subtest to which they belonged; and (3) the magnitude of the item intercorrelations in a subtest was at least .15.

It should be noted that the final 16 subtests do not represent the same 16 subtests originally developed by the judges but are the most statistically sound subtests. All items not included in a subtest were carried in an item pool for additional analysis.

The final 16 subtests were subjected to a Thurstone Multiple Group factor analysis as modified by Wherry and Winer (33). The following steps briefly outline this method.

1. All items were placed in relatively independent subtest categories and subjected to two item analyses for verification. The necessary modifications were performed as indicated resulting in 16 subtests and an item pool.

2. The item-subtest coefficients of correlation were computed for all items against each subtest. Similarly, subtest intercorrelations were obtained.

3. The Doolittle procedure was utilized to determine the linear independence of the subtests in the subtest intercorrelation matrix found in Step 2.

4. The following corrective procedures were performed on the tests remaining from Step 3.

- a. For subtests containing less than 10 items it is necessary to transform the item-subtest correlations into projections on the group centroid vectors represented by the subtest.
- b. Similarly it is necessary to correct the item-subtest correlations for items not in any subtest by using the C_K value obtained in Step A above.
- c. In addition the subtest intercorrelations obtained in Step 2 are underestimates of the common factor space and must be adjusted by their respective C_K values. (33)

5. The corrected subtest intercorrelations were evaluated for linear independence by repeating Step 3.

6. The corrected subtest intercorrelation matrix obtained in 4C of tests selected as linearly independent by the Doolittle procedure method in Step 5 was factor analyzed using the Multiple Group Method of factor analysis.

7. The Doolittle procedure was extended to compute a transformation matrix of the factor matrix obtained in the above step.

8. The corrected item-subtest correlation coefficients (projections of items on group centroid vectors) were multiplied by the transformation matrix to obtain estimates of the orthogonal item factor loadings.

9. These item factor loadings were then rotated to meaningfulness maintaining orthogonality of factors.

Coefficients of correlation between the 16 subtests in their final form and the criterion were computed. Similarly, criterion factor loadings were obtained for each factor which emerged from the factor analysis. These may be considered as estimates of the correlation of the factors with the criterion measure.

CHAPTER III

RESULTS

Results of Subtest Development

The original 16 subtests (categories used to sort items on the basis of item content) were subjected to two item analyses. It should be remembered that several of the subtests were eliminated in toto whereas two subtests were divided into two separate subtests. All subtests met the criteria set up earlier (see pages 12 and 13). The reliabilities of the subtests in their final form appear in Table 2.

TABLE 2
RELIABILITIES OF THE SUBTESTS IN THEIR FINAL FORM

Test		Test	
1	.69	8	.69
2	.70	9	.68
3	.75	10	.76
4	.62	11	.88
5	.64	12	.63
6	.56	13	.71
7	.61	14	.61
8	.69	15	.63

It was necessary to correct all subtests containing less than 10 items and to correct the subtest intercorrelations. The subtests varied in the number of items and all tests except subtest 11 were iterated to obtain the corrected values.

The subtests were intercorrelated before and after the "correction" was applied. The intercorrelations of the subtests appear in Table 3 and indicate that a number of the subtests were not highly related statistically. However, after correction it may be noted that the intercorrelations increased. These intercorrelations appear in Table 4.

It should be noted that subtests 4 and 10 intercorrelate with one other test in excess of 1.00. Both tests were dropped from further analysis. The Doolittle procedure was applied to the remaining corrected subtest intercorrelations and the most independent subtests were chosen for factor analysis; they were: 1, 2, 3, 5, 6, 8, 9, 11, 12, 13 and 15.

Factor Analysis

The above subtests were factor analyzed using the Thurstone Multiple Group method. The final factor matrix was obtained without rotation as developed by Wherry (31).

TABLE 3

INTERCORRELATIONS OF THE ORIGINAL SUBTESTS BEFORE CORRECTION FOR OVERLAP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1.00	.010	.503	.701	.277	.106	.401	.351	.223	.309	.456	.231	.215	.555	.023	.523
2		1.00	+.042	+.088	+.003	.193	+.105	+.136	.359	.019	+.014	+.103	.344	+.058	.246	.145
3			1.00	.613	.510	.093	.480	.567	.141	.603	.646	.332	.249	.590	+.034	.560
4				1.00	.314	.227	.472	.448	.191	.476	.548	.275	.341	.502	.221	.473
5					1.00	.106	.451	.599	.066	.493	.563	.143	.245	.570	+.161	.341
6						1.00	+.038	.162	.220	.041	.059	.240	.250	.159	.129	.050
7							1.00	.582	.161	.707	.630	.225	.323	.604	.138	.362
8								1.00	.096	.596	.554	.335	.189	.610	+.018	.326
9									1.00	.192	.180	.266	.359	.160	.420	.120
10										1.00	.648	.302	.323	.551	.191	.443
11											1.00	.198	.423	.692	.070	.344
12												1.00	.102	.287	.157	.195
13													1.00	.335	.368	.153
14														1.00	.006	.401
15															1.00	+.018
16																1.00

TABLE 4

INTERCORRELATIONS OF THE ORIGINAL SUBTESTS AFTER CORRECTION FOR OVERLAP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1.00	.012	.691	1.006	.411	.167	.613	.505	.320	.454	.543	.339	.302	.835	.035	.767
2		1.00	-.058	-.131	.004	.303	-.157	-.196	.513	.029	-.017	-.151	.482	-.087	.370	.213
3			1.00	.881	.730	.141	.699	.774	.195	.783	.744	.472	.339	.858	-.049	.795
4				1.00	.451	.323	.682	.637	.273	.681	.784	.391	.497	.725	.323	.671
5					1.00	.173	.709	.899	.099	.711	.700	.220	.359	.895	-.253	.523
6						1.00	-.064	.258	.345	.063	.078	.391	.388	.265	.215	.081
7							1.00	.889	.244	1.010	.797	.351	.481	.965	.221	.565
8								1.00	.139	.851	.669	.499	.268	.931	-.028	.486
9									1.00	.273	.215	.395	.507	.241	.635	.178
10										1.00	.884	.433	.461	.792	.271	.633
11											1.00	.245	.498	.874	.084	.425
12												1.00	.148	.448	.245	.298
13													1.00	.497	.548	.222
14														1.00	.011	.618
15															1.00	-.028
16																1.00

However, some rotation was done graphically and checked mathematically to improve the general factor, Factor II, and to introduce an additional factor, Factor VI, which appeared to more adequately explain the subtest inter-correlations. The final factor matrix after rotation is presented in Table 5. A residual table was computed and subjected to the Wherry (30) clean-up method in order to reduce the remaining residuals to a minimum. The residual table appears as Table 6.

TABLE 5
SUBTEST FACTOR MATRIX

Test	I	II	III	IV	V	VI	S	h^2
1	39	51	09	39	06	-12	00	59
2	11	-14	-03	-12	75	05	00	62
3	52	67	03	26	-05	09	00	80
5	28	78	-23	04	-06	36	00	87
6	23	13	30	-14	20	20	86	100
8	41	78	11	01	-19	38	00	96
9	40	06	55	04	55	-01	00	77
11	43	61	-10	22	13	10	00	64
12	40	32	51	-06	-19	21	00	60
13	38	25	09	05	69	08	00	70
15	33	-20	58	-02	52	-08	00	77

TABLE 6
RESIDUAL CORRELATION MATRIX

	1	2	3	5	6	8	9	11	12	13	15
1		.058	.055	-.047	.065	-.010	.039	-.007	.045	-.033	-.070
2			.043	.098	.069	-.007	.086	.057	-.017	-.037	-.067
3				.021	-.027	-.010	-.049	.054	.039	.019	-.063
5					-.014	.054	.098	.044	-.096	.089	-.001
6						.027	-.010	-.093	.096	.060	-.088
8							-.021	-.013	-.062	.004	.058
9								.014	.044	-.089	-.091
11									-.041	.082	.070
12										.012	-.014
13											.069
15											

Item Factor Loadings

It is desirable to have a maximum number of items to identify a given factor. Since the subtests included only 106 items of the total of 275 items, factor loadings for all items were obtained. Only items loading at least .25 or more (significant at the .01 level) were used for rotation and identification of the factors; 200 items received sufficient loadings and were subjected to item rotation. All items used in the final item rotations appear in Appendix B.

Criterion Measure

Criterion data in the form of peer nominations were collected from all groups. The groups were scored separately and corrected for group size to make the criterion scores comparable. Split-half coefficients of reliability and a Spearman-Brown estimation of reliability were computed for each school and at each year level. These results indicate that the criterion measure is sufficiently reliable to be used. These results appear in Table 7.

Correlation of the Subtests and Factors with the Criterion

Two attempts were made to determine the relationship between the criterion measure and the study variables.

Correlations between all the subtests and the criterion were very low as indicated in Table 8. Similarly, the

TABLE 7

ESTIMATES OF SPLIT-HALF RELIABILITY OF PEER NOMINATIONS
BY SCHOOL AND YEAR LEVEL (SPEARMAN-BROWN
ESTIMATES ARE IN PARENTHESES)

School	A	B	C
1st Year	.46 (.63)	.83 (.91)	.81 (.90)
2nd Year	.70 (.82)	.73 (.84)	.58 (.66)
3rd Year	.80 (.89)	.82 (.90)	.40 (.57)

TABLE 8

SUBTEST AND CRITERION CORRELATIONS

Test		Test	
1	.01	9	.06
2	.09	10	.08
3	.03	11	-.06
4	.06	12	.14
5	-.08	13	.11
6	-.01	14	.01
7	-.10	15	.04
8	.08	16	-.03

criterion measure failed to receive any significant loadings on any of the factors which emerged from the analysis

of the eleven subtests. Table 9 contains these findings.

TABLE 9
CRITERION MEASURE FACTOR LOADINGS

I	II	III	IV	V	VI	S
01	09	03	06	-08	01	02

Identification of Factors

An attempt was made to identify and name the factors remaining after final item rotation. Items which received factor loadings of approximately .30 or more were used. A sufficient number of items are presented to give the reader some indication of each factor.

Factor I Acceptance-Compliance

The emergence of this factor seems to indicate that some form of acceptance and compliance is valued by student nurses in training. Nineteen items which received the highest item factor loadings (all loadings are above .40 and significant at the .01 level) are used to identify this factor.

Loading	Item	
70	42	During high school she showed an honest respect for her parents, teachers, and classmates.
65	160	Paying respect to those who deserve it.
61	199	She is able to go out with "the girls" and have a good time.
61	230	She was permitted to date in high school.
59	3	Almost always finishes the task she sets out to do.
59	95	Has the privacy she needs when she needs it.
58	187	She establishes a professional relationship with her instructors, supervisors, etc.
57	6	Asks questions when a situation arises during her work which she does not understand.
57	20	Can express herself and any criticism she may have of her experiences in training without being criticized or unfairly graded by her superiors.
53	100	Held offices in organizations while in high school.
52	268	Willing to help classmates and friends with their problems.
52	196	She has someone to whom she can gripe or complain.
51	254	Wants to get married some day and gives considerable thought to what the future might hold along these lines.
49	119	Is aware of her faults, shortcomings, limitations, etc.
48	13	Before she entered training, she was full of wonder and doubt (about what it would be like).
45	43	Enjoys getting out and "letting off steam."
45	2	After training she would like to work for awhile.
44	220	She was a hard worker in those projects in which she participated: pep rallies, school dances, class projects, etc.
40	107	If a mistake is made while on duty, she corrects it quickly.

Factor II General

A large number of items loaded on Factor II indicating that this factor may be considered the result of general bias on the part of the subjects. The factor represents the concept of how the "ideal" student nurse is viewed by the

student nurse herself; and what is considered to be positive or excellent and what is considered to be negative or poor as indicated by the item factor loadings and item content. The highest 20 items both positive and negative are listed below to identify this factor.

Loading	Item
90 91	Has many friends who look up to her.
87 198	She is able to cover up her distaste for something with a smile.
85 135	Keeping in close contact with nursing throughout life.
82 87	Has an "iron stomach" when it comes to seeing something unpleasant.
81 40	Does not mind doing outside or overtime work.
80 79	Giving credit to people for their ideas.
74 242	Thinks of the other student nurses and herself as one big family.
72 49	Failures (low test grades, poor performance reports, etc.) make her more determined to succeed.
72 215	She seldom lets anyone know how she feels.
71 175	She almost always fits into any group---is not a "goody-goody" girl.
71 80	Going out to meet new faces and make new friends.
70 152	Looks forward to each new day for the new experiences it may bring.
67 26	Considers anything bearable if it leads to her R.N. degree.
67 136	Keeps her date waiting because she worked an extra hour because someone was needed.
66 153	Looks upon receiving her cap ("capping") as a real personal achievement.
65 141	Knows the value of money because she held a job before entering training.
65 203	She is a "perfectionist" in carrying out good nursing care.
64 93	Has patience with patients, instructors, the hospital environment, etc.
61 146	Likes to draw out the backward, shy people and bring them into the group.
60 123	Is grateful to her parents for giving her the opportunity to enter nurse training.

Loading	Item	
-77	37	Does not have a religious belief.
-67	14	Being a somewhat selfish person by nature.
-65	223	Sometimes she cuts work to study for a mid-term examination which is due.
-63	108	If she fails a test, she becomes depressed.
-62	58	Feels much of the material presented to student nurses is repeated to uselessness.
-60	28	Considers most of the work she does in training as drudgery.
-58	62	Feels she doesn't have to act like an adult all the time.
-55	205	She is not wholly dedicated to her profession.
-52	172	Remains in nursing because she wonders what others will think if she decides to quit training.
-51	88	Has been a sensitive person before she came into training.
-51	191	She has always been told how to do something when at home.
-50	266	Will disagree with her family.
-49	206	She is one who may be considered as a chronic complainer.
-49	128	Is somewhat disillusioned if others do not meet her standards (usually high).
-48	41	Dreads going to work in the morning.
-48	263	When she first got on the floor, she found it strange and frightening.
-45	86	Has always been told what to do in her home life.
-45	3	Almost always finishes the task she sets out to do.
-43	196	She has someone to whom she can gripe or complain.
-42	10	Becomes offended by remarks made by some of her patients.

Factor III Calm Assurance vs. Frightened Bewilderment

This factor was reflected and only one item loaded positive after reflection. While it cannot be identified in terms of the positive end, the negative factor loadings indicate a basic fright and/or bewilderment tendency as

contrasted with a very firm, calm, self-assured reaction pattern. This factor is discussed in greater detail in Chapter IV. The one positive and sixteen highest negative items characterize this factor.

Loading	Item
30 158	Parents don't care if she continues or quits nurse training.
-49 89	Has guilt feelings when she forgets to do something on duty.
-46 13	Before she entered training, she was full of wonder and doubt (about what it would be like).
-42 263	When she first got on the floor, she found it strange and frightening.
-42 254	Wants to get married some day and gives considerable thought to what the future might hold along these lines.
-39 191	She has always been told how to do something when at home.
-38 108	If she fails a test, she becomes depressed.
-37 196	She has someone to whom she can gripe or complain.
-34 230	She was permitted to date in high school.
-34 83	Has a group of student nurses to which she more or less belongs.
-33 57	Feels instructors should not put a lot of assignments on her if she has had a long day.
-33 128	Is somewhat disillusioned if others do not meet her standards (usually high).
-32 60	Feels if a girl enters nurse training, she cannot call her life her own.
-31 150	Lives from day-to-day while in training.
-31 207	She is well informed on things outside of nursing.
-31 244	Tries to appear as an "artificial saint."

Factor IV Rotated into Factor I

Factor IV contained items which loaded fairly heavily on Factor I. Final rotations resulted in this factor being rotated into Factor I.

Factor V Concern for Self

This factor appears to be concerned with relating things to oneself. The five items receiving high negative item factor loadings are most notable. The 15 items with the highest negative loadings (after reflection) and all the items with positive loadings above .30 are presented.

Loading	Item	
43	40	Does not mind doing outside or overtime work.
37	52	Feels a nurse is born---not made.
32	20	Can express herself and any criticism she may have of her experiences in training without being criticized or unfairly graded by her superiors.
32	203	She is a "perfectionist" in carrying out good nursing care.
-67	197	She has a need to have people appreciate her.
-64	189	She has a need to have people admire her.
-64	45	Entered nurse training because she could not go to college.
-61	196	She has someone to whom she can gripe or complain.
-55	265	When she was selecting nursing as a profession, she secretly wasn't sure if she were choosing correctly.
-47	13	Before she entered training, she was full of wonder and doubt (about what it would be like).
-47	14	Being a somewhat selfish person by nature.
-47	233	Talking about things which are taboo in society today.
-46	46	Entered training to prove to herself her independence from her family.
-45	48	Experienced many qualms about her choice of entering training (before she actually entered training).
-45	108	If she fails a test, she becomes depressed.
-45	7	At first she was fascinated by the white cap and uniform.
-43	266	Will disagree with her family.
-41	75	Feels the work is tough, the hours are tough and the classes are tough in nurse training.

Factor VI Not named.

Only three items received loadings sufficiently high to be considered for use in identifying this factor. These items seem to suggest emotional instability of maladjustment but any identification or factor name would be tenuous on the basis of these few items.

Loading	Item
36 138	Knows how she feels (or felt) when she sees (or saw) her first patient die.
31 245	Tries to be cheerful by being "gushy".
29 263	When she first got on the floor, she found it strange and frightening.

Factor VII Independence-Dependence

This factor contains several areas in which some form of independence or dependence is expressed. The most notable examples are lacking a need for acknowledgment for one's efforts, exerting oneself, striving to fulfill or conform to the expectations of others and avoiding academic failure.

These items were reflected since they were conversely related to items loading on the general factor. All items loading above .30 after reflection and the 13 highest negative items are listed.

Loading	Item	
54	184	She does not need actual verbal acknowledgment from others for her work.
43	247	Tries to widen her knowledge of other things on her own.
35	127	Is quite independent of her parents.
35	147	Likes to read books which do not pertain to nursing.
31	80	Going out to meet new faces and make new friends.
31	115	Is aggressive.
-65	143	Learns the class material because she is afraid of failing.
-56	208	She is willing to do things because they are expected of her.
-52	226	Swallows the lump in her throat when she is bawled-out by a doctor.
-52	217	She really likes only one type of person.
-51	201	She is eager to please others.
-48	223	Sometimes she cuts work to study for a mid-term examination which is due.
-46	244	Tries to appear as an "artificial saint."
-45	225	Strives to do better and better so her family will be proud of her.
-45	164	Puts each patient in the place of someone whom she loves dearly.
-44	254	Wants to get married some day and gives considerable thought to what the future might hold along these lines.
-43	199	She is able to go out with "the girls" and have a good time.
-43	245	Tries to be cheerful by being "gushy."
-42	27	Considers it important to set a good example for her classmates to see.

CHAPTER IV

DISCUSSION

The methodological procedures for developing subtests were applicable to items requiring "valuings" by the respondents. These subtests were sufficiently reliable and independent so that six group factors and a specific factor which could be related to a larger number of items for identification were obtained. The naming of these factors is arbitrary but is related to the item content and item factor loadings.

Factor I seems to be fairly broad and involves: (1) relating with and respecting other people such as fellow-students, parents, supervisors, instructors and others in positions of authority; (2) accepting and complying with expectations such as completing work assignments, fulfilling obligations and following rules, procedures and policies while on duty or receiving instruction.

Logically we should expect a factor of this nature since failure to accept and comply with training requirements and expectations would probably lead to failure and/or dismissal from training. Similarly, being accepted

and accepting others appears to be highly important. A consideration of the demands placed upon students in training seems to indicate that some form of mutual support is valued and that a reduction of or absence of personal frictions facilitates tolerating the more stressful aspects of training.

Factor II is considered as a general factor. A large number of items received loadings on this factor, therefore, preliminary item rotation was done to maximize item loadings. It was expected that some type of general factor which could be viewed as a general stereotype or valuing of items would emerge. This is sometimes referred to as a "halo" effect in the area of rating.

However, this factor does tend to exemplify how student nurses view the "ideal" student nurse. It may adequately outline how student nurses view the role which they are attempting to fulfill, and may have some merit as a basis for comparing the student nurses' "valuing" of their role with the student nurse role as seen by nursing school educators, administrators, supervisors and instructors.

If the criterion measure were an expression of general success, it could be expected that this factor would correlate with the criterion. However, the obtained

correlation of .09 is the largest of all the factor-criterion correlations but obviously is insignificant.

Factor III, Calm Assurance vs. Frightened Bewilderment, was anticipated by the author. It is fairly common knowledge that student nurses are under considerable stress and pressure. Academic obligations in addition to heavy work assignments involving considerable responsibility require individuals with stable, well-integrated behavior patterns. This factor appears to be characteristic of this requirement. In the selection of applicants for training the implications indicated by this factor might profitably be considered.

Factor IV received item factor loading similar to those of Factor I. Final rotations resulted in the rotating of Factor IV into Factor I.

Factor V, Concern for Self, is represented by items dealing with the individual: her needs for recognition, admiration, assertiveness, her reason for entering training, her outlook toward training and her basic nature. Prior to reflection the item loadings were negative as compared to the general factor positive items. This would rationally follow since concern for oneself is conversely related to the "ideal" student nurse's concern for others. It appears that this factor is similar to the lack of altruism or the preoccupation of relating everything to oneself.

Factor VI was not named since only three items received any appreciable factor loadings. These items did suggest some emotional aspect involved in situations encountered in training. Exactly what relationship is involved between this factor and Factor V, Calm Assurance vs. Frightened-Bewilderment, is not definite. However, it could be that the factor of Calm Assurance represents a well-integrated, basically strong type of individual capable of decision making and leadership during periods of stress whereas Factor VI suggests a dimension involving emotional adjustment or health. Since the study population is and has been under careful scrutiny during selection and training, it may be that this factor was not present per se as a valued dimension.

Factor VII, Independence vs. Dependence, was expressed in several areas. An independence of action relative to continuing duty, an outgoing orientation and some degree of personal assertiveness appear to be desirable. However, a dependency relative to pleasing others, accepting criticism, avoiding academic failure and doing the expected things represents the other end of the factor. It is true that a certain form of independence is needed to maintain one's individuality during training. A deep seated dependency, characterized by over-relating to others, involvement with others and academic motivation because of fear

of failure, tends to be undesirable as related to the general stereotype of the student nurse as expressed by Factor II.

The hierarchical order of the factors indicates that the factors relate under the general factor. Acceptance and compliance to both people and nursing requirements, calm assurance during training stress, lack of concern for personal desires, independence characterized by continued work and effort, self-development and sincerity in training might describe student nurses' value dimensions. It is felt that these are important dimensions, but the consideration of an emotional adjustment factor or dimension suggested by the study findings seems to be highly appropriate before one can consider this factor order complete.

The study variables in two forms were correlated with the criterion measure. Subtest correlations were uniformly low ranging from $-.10$ to $.14$. Similarly, the factors obtained failed to correlate with the criterion as indicated by the criterion factor loadings. Since the estimates of the criterion reliabilities were sufficiently high to permit a correlation to appear, if one does exist, it is felt that several explanations might apply: (1) The peer nominations could have been made primarily on the

basis of academic grades. Studies have shown that often value dimensions are not highly related to grades. This possibility remains unanswered. However, it is felt that the peer nominations represent not only grades but that a total complex of variables which make for the "best" student nurse was considered by the raters. (2) It may be that additional value dimensions are present which were not tapped, and that these might better relate to the criterion measure. (3) It is possible that the factors or values found represent only the expressed values of the population and that a disparity exists between the expressed and true values. In this case the peer nominations would be closer to the true values exhibited behaviorally. (4) If it can be assumed that peer nominations do measure success in nursing, it follows that the lack of correlation of values as measured in this study represents the true or actual situation.

CHAPTER V

SUMMARY

The purpose of this study has been the discovery of some value dimensions characteristic of student nurses. This study attempted to employ an open-ended approach in an effort to avoid predetermination of values and to increase the probability of drawing out any dimensions (or factors) which might be present. A large number of items was used to further this aim. The methodological approach of factor analysis of items was employed.

In an attempt to avoid some of the semantic problems an operational definition of "value" was utilized. Values were defined as judgments in terms of "poor" to "excellent" on a nine-point continuum of a specific act, action or implied action.

Three schools of nursing with markedly different orientations were involved in the collection of all data since different settings may tend to influence the "values" of student nurses. One hundred and thirty four student nurses composed the study sample. The three levels of training of each school were approximately equally represented.

Although it would have been possible to study a value structure without some form of a criterion, it was felt that relating any value dimensions obtained to some measure of success would have practical as well as theoretical implications.

The study data were collected in two forms: (1) evaluative responses to 275 items obtained from essays and interviews and (2) peer nominations of the "best" and "poorest" student nurses. The criterion data proved to be sufficiently reliable to be used. Subtests were developed using a number of the items and were subjected to two item analyses. Subtest intercorrelations using the final form of the subtests were factor analyzed.

A total of seven factors emerged. After rotation six were retained and identified. Four were named: Acceptance and Compliance; Calm Assurance vs. Frightened Bewilderment; Concern for Self; Independence vs. Dependence. The two remaining factors consisted of a General factor and an unidentified factor suggesting emotional instability.

Coefficients of correlation were computed between the subtests and the criterion and between the factors obtained and the criterion. All correlations were low and not significant. Several possible explanations for the lack of correlation of the study variables and the

criterion may be: (1) the peer nominations may have been made primarily on the basis of grades; (2) that value dimensions that may be present and relate to the criterion measure were not tapped; (3) that a disparity exists between the expressed and the true values and (4) that there is no correlation between the study variables and the criterion.

APPENDIXES

APPENDIX A

Ohio State University Department of Psychology

Instructions

Student nurses vary in many ways: why they entered nursing, what they are striving for, what they like or dislike, etc. We are interested in learning what is good and what is poor as YOU see it.

Please evaluate each of the following items in accordance with your own point of view using the 9 point scale which appears below. Read each item and give us your FIRST impression. (Avoid studying the item for additional meaning; concentrate on recording your initial or first reaction to the item as you see it.) Write the number which best represents your point of view on the blank at the left of each item. ALL ITEMS REFER TO STUDENT NURSES ONLY!

For most of you the items will NOT appear in the correct numerical order. This is not important; the number is used for identification of the item. Answer the questions which appear below first; if you are not sure make a guess and write (?) after your guessed answer.

You may feel assured that your evaluations will be held in strictest confidence. These data are to be used FOR RESEARCH PURPOSES ONLY! No member of your school (student, faculty member or administrator) will have access to any of these data---so please give us your honest reaction to each item.

The ultimate success of this research and any benefits it may render to nursing and student nurses depend upon YOUR COOPERATION.

Ex- tremely Poor	Very Poor	Quite Poor	Slight- ly Poor	Don't Care or Neutral	Slight- ly Good	Quite Good	Very Good	Ex- cellent
1	2	3	4	5	6	7	8	9

Name_____Year in training_____

Major area of interest in nursing_____

Your cumulative point hour is_____

Subject liked best_____Subject liked least_____

Your home is in:

_____ A city (over 10,000 population)

_____ A town (between 1,000 to 10,000 population)

_____ Village or county (under 1,000 population)

1. _____ A readiness to smile is one of her characteristics.
2. _____ After training she would like to work for awhile.
3. _____ Almost always finishes the task she sets out to do.
4. _____ Appreciates each person's job, i.e., nurse aid, practical nurse, R.N.
5. _____ As a child she enjoyed being an all-around "handy man" for her mother.
6. _____ Asks questions when a situation arises during her work which she does not understand.
7. _____ At first she was fascinated by the white cap and uniform.
8. _____ At times she becomes so disgusted with everybody and everything that she doesn't know what to do.
9. _____ At times she feels discouraged and miserable due to the stress of the never ending routine of classes and duty.
10. _____ Becomes offended by remarks made by some of her patients.
11. _____ Before entering training, she had taken care of someone who was sick.
12. _____ Before she came into training, she wondered if she would be able to take it.
13. _____ Before she entered training, she was full of wonder and doubt (about what it would be like).
14. _____ Being a somewhat selfish person by nature.
15. _____ Being considered as belonging to a "fast" group of girls as a student nurse.
16. _____ Being interested in campus activities.
17. _____ Being smart but not extraordinarily intelligent.
18. _____ Believes she should be contented with her profession.
19. _____ Budgets her time so as to have a few hours for social activities each day.
20. _____ Can express herself and any criticism she may have of her experiences in training without being criticized or unfairly graded by her superiors.
21. _____ Can tolerate or understand why people act or believe differently than she does.
22. _____ Chose nursing as a profession partly because of the prestige she would receive by being in it.
23. _____ Chose nursing because another job did not seem to offer as much satisfaction from helping others as does nursing.
24. _____ Comes from a family of high economic background.
25. _____ Condemns herself after a mistake has been corrected ---not before.
26. _____ Considers anything bearable if it leads to her R.N. degree.
27. _____ Considers it important to set a good example for her classmates to see.

28. _____ Considers most of the work she does in training as drudgery.
29. _____ Considers nothing the patient says or does unworthy of some attention.
30. _____ Consulted with someone in the medical profession in order to decide upon nursing as a career.
31. _____ Dates quite often or has a steady boy-friend.
32. _____ Day in and day out she eats, sleeps and lives nursing.
33. _____ Desires (or plans) to work part-time while her children are growing up.
34. _____ Did baby-sitting jobs before entering nursing.
35. _____ Does not compete with her classmates for grades.
36. _____ Does not dwell on problems at hand if a solution is impossible right away.
37. _____ Does not have a religious belief.
38. _____ Does not have to think about the impression she is making on others.
39. _____ Does not let people "run" over her.
40. _____ Does not mind doing outside or overtime work.
41. _____ Dreads going to work in the morning.
42. _____ During high school she showed an honest respect for her parents, teachers and classmates.
43. _____ Enjoys getting out and "letting off steam".
44. _____ Entered nursing to prepare herself for another career, i.e., an airline hostess.
45. _____ Entered nurse training because she could not go to college.
46. _____ Entered training to prove to herself her independence from her family.
47. _____ Every so often there comes the need to have a "good cry" in her bedroom by herself.
48. _____ Experienced many qualms about her choice of entering nurse training (before she actually entered training.)
49. _____ Failures (low test grades, poor performance reports, etc.) make her more determined to succeed.
50. _____ Feels a nurse must develop a relationship with patients which will encourage them to confide in her.
51. _____ Feels a nurse must have a little actress in her.
52. _____ Feels a nurse is born---not made.
53. _____ Feels a responsibility to know what is new in her field.
54. _____ Feels a sudden shock when her patient dies unexpectedly.
55. _____ Feels close to her roommate.

56. _____ Feels guilty when she is unable to go to church.
57. _____ Feels instructors should not put a lot of assignments on her if she has had a long day.
58. _____ Feels much of the material presented to student nurses is repeated to uselessness.
59. _____ Feels nursing makes her grow up.
60. _____ Feels if a girl enters nurse training, she cannot call her life her own.
61. _____ Feels that entering nursing fulfills the purpose for which she was put on earth.
62. _____ Feels she doesn't have to act like an adult all the time.
63. _____ Feels she must accept the good with the bad.
64. _____ Feels she must not think of herself as being superior to her patients.
65. _____ Feels she must realize some degree of success in her work.
66. _____ Feels she must receive some form of appreciation from patients either by action or word.
67. _____ Feels she should always be her natural self.
68. _____ Feels she should be an individual first, then a nurse.
69. _____ Feels she should not try to be overly nice with those over her such as supervisors, instructors, etc.
70. _____ Feels she was "born to be a nurse."
71. _____ Feels she will look forward to going back to nursing after she has raised her family.
72. _____ Feels superior to her classmates in some ways.
73. _____ Feels that it takes a certain amount of courage and stamina in order to obtain a nursing degree.
74. _____ Feels that she can do something for her patient(s) which no one else can do for him (them).
75. _____ Feels the work is tough, the hours are tough and the classes are tough in nurse training.
76. _____ Found out she was not as bright as everyone had thought she was when she took her first courses.
77. _____ Gives up the holiday she wanted off so the floor would be staffed adequately.
78. _____ Giving credit to people for their accomplishments.
79. _____ Giving credit to people for their ideas.
80. _____ Going out to meet new faces and make new friends.
81. _____ Has a business-like attitude toward her co-workers.
82. _____ Has a close relationship with one member of the opposite sex whom she considers just a good friend.
83. _____ Has a group of student nurses to which she more or less belongs.
84. _____ Has a special interest in some extra-curricular activity which at times may interfere with school work.
85. _____ Has a religious belief in order that she may be able to help patients in need of spiritual assistance.

86. _____ Has always been told what to do in her home life.
87. _____ Has an "iron stomach" when it comes to seeing something unpleasant.
88. _____ Has been a sensitive person before she came into training.
89. _____ Has guilt feelings when she forgets to do something on duty.
90. _____ Has learned not to show her emotions or feelings outwardly.
91. _____ Has many friends who look up to her.
92. _____ Has not been sheltered from the tragedies and misfortunes in life.
93. _____ Has patience with patients, instructors, the hospital environment, etc.
94. _____ Has rather simple and practical tastes.
95. _____ Has the privacy she needs when she needs it.
96. _____ Has a genuine interest in other peoples' problems.
97. _____ Having her family do special things for her when she is home on a week-end.
98. _____ Hearing a quiet "Thank you" or "God bless you" from a patient.
99. _____ Needs carefully the advice of her parents.
100. _____ Held offices in organizations while in high school.
101. _____ Her father objected to her entering nurse training.
102. _____ Her parents disciplined her firmly but with fairness and unrelenting love.
103. _____ Her knowledge of the normal and healthy overrides any dislike or fear of the abnormal and unhealthy she may have.
104. _____ Her social life is completely independent of nursing.
105. _____ Her relationships with supervisors, teachers, doctors, etc. center around a need for their teaching.
106. _____ Her relationships with supervisors, teachers, doctors, etc. center around respect for these people.
107. _____ If a mistake is made while on duty, she corrects it quickly.
108. _____ If she fails a test, she becomes depressed.
109. _____ If she has done something wrong, she is able to admit it.
110. _____ If the opportunity arises in any way she uses herself as an example to help others.
111. _____ Is able to forget things which happen at the hospital during the day.
112. _____ Is able to give factual criticism to other student nurses if they ask her for evaluation or opinion.

- 113. _____ Is able to laugh at herself.
- 114. _____ Is able to reason for her own satisfaction why there are people suffering from diseases which are incurable.
- 115. _____ Is aggressive.
- 116. _____ Is always on the look-out for young girls who might be interested in nursing.
- 117. _____ Is at ease when doing her procedures of patient care and treatment.
- 118. _____ It is not easy for her to see tragic things happen to patients.
- 119. _____ Is aware of her faults, shortcomings, limitations, etc.
- 120. _____ Is basically happy and carefree but strong and dependable when the occasion arises.
- 121. _____ Is continually amazed at the miracles of life, i.e., birth.
- 122. _____ Is experiencing a temporary disgust for nursing.
- 123. _____ Is grateful to her parents for giving her the opportunity to enter nurse training.
- 124. _____ Is influenced by upperclass students.
- 125. _____ Is not ready to accept the first statement about something which is made to her.
- 126. _____ Is one who likes reality and factual things.
- 127. _____ Is quite independent of her parents.
- 128. _____ Is somewhat disillusioned if others do not meet her standards (usually high).
- 129. _____ Is the soft, feminine type girl.
- 130. _____ Is the type of person who plans every move she is going to make.
- 131. _____ Is not aware of the strain and tension under which she works.
- 132. _____ Is willing to change her mind if she feels she has been proven wrong.
- 133. _____ Is willing to take the initiative to do something extra after work is finished.
- 134. _____ It really is an effort for her to be calm and cheerful when she knows a patient has only a short time to live.
- 135. _____ Keeping in close contact with nursing throughout life.
- 136. _____ Keeps her date waiting because she worked an extra hour because someone was needed.
- 137. _____ Keeps her uniform in tip-top shape, shoes shined, etc.
- 138. _____ Knows how she feels (or felt) when she sees (or saw) her first patient die.
- 139. _____ Knows her place and stays in it.

- 140. _____ Knows she has a lot to live up to as a member of a profession.
- 141. _____ Knows the value of money because she held a job before entering training.
- 142. _____ Knows what she wants to accomplish in life.
- 143. _____ Learns the class material because she is afraid of failing.
- 144. _____ Learns to sacrifice time, energy and other interests for the welfare of the patient.
- 145. _____ Letting the other person think he is right in order to keep peace and happiness.
- 146. _____ Likes to draw out the backward, shy people and bring them into the group.
- 147. _____ Likes to read books which do not pertain to nursing.
- 148. _____ Likes all people from grandmas to babies.
- 149. _____ Listens to a patient's problems even though she has a million-and-one things to do.
- 150. _____ Lives from day-to-day while in training.
- 151. _____ Looks forward eagerly to her days off.
- 152. _____ Looks forward to each new day for the new experiences it may bring.
- 153. _____ Looks upon receiving her cap ("capping") as a real personal achievement.
- 154. _____ Neglects her family for her profession.
- 155. _____ Often learns by experience rather than in classes.
- 156. _____ Other people feel "she knows what she is talking about."
- 157. _____ Parents are always interested in what-ever she does.
- 158. _____ Parents don't care if she continues or quits nurse training.
- 159. _____ Parents made suggestions concerning her behavior, decisions, etc. when she was in high school.
- 160. _____ Paying respect to those who deserve it.
- 161. _____ Paying respect to those who don't really deserve it.
- 162. _____ Plans to stay single and stay in nursing as a career.
- 163. _____ Practices the art of objective self-evaluation from time to time.
- 164. _____ Puts each patient in the place of someone whom she loves dearly.
- 165. _____ Realizes a career in nursing enhances her own life.
- 166. _____ Realizes during training that she will never have another opportunity to receive this training (information) again.
- 167. _____ Realizes she cannot reach the "know it all" stage of knowledge.

- 168. _____ Realizes she has the trust and confidence of many people in her hands when on duty.
- 169. _____ Realizes that nursing is not as glorious as she may have thought it to be.
- 170. _____ Realizes that there are some who are not as dedicated to nursing as she is.
- 171. _____ Recognizes the necessity of some form of relationship between God and herself.
- 172. _____ Remains in nursing because she wonders what others will think if she decides to quit training.
- 173. _____ Seeks the company of others for leisure time activities.
- 174. _____ Seldom, if ever, minds coming back to school after being home for the week-end.
- 175. _____ She almost always fits into any group----is not a "goody-goody" girl.
- 176. _____ She avoids conflicts with others.
- 177. _____ She belongs to another organization to get her mind off nursing.
- 178. _____ She becomes depressed when criticized.
- 179. _____ She comes from a home that was completely open, i.e., problems were discussed freely and without feelings of being ashamed.
- 180. _____ She considers no material reward equal to the reward of self-satisfaction.
- 181. _____ She constantly sets a new goal for herself as she achieves the previous one (goal).
- 182. _____ She considers herself above others because of her professional training.
- 183. _____ She did not decide to become a student nurse until her senior year of high school.
- 184. _____ She does not need actual verbal acknowledgment from others for her work.
- 185. _____ She doesn't forget she is an individual first ----then a nurse.
- 186. _____ She experienced both success and failure during childhood.
- 187. _____ She establishes a professional relationship with her instructors, supervisors, etc.
- 188. _____ She gets answers to questions which might seem foolish to her at the time.
- 189. _____ She has a need to have people admire her.
- 190. _____ She hasn't always been an angel.
- 191. _____ She has always been told how to do something when at home.
- 192. _____ She has few really close friends.
- 193. _____ She has plenty of spunk and determination.
- 194. _____ She has her religious attitudes in mind at all times.

- 195. _____ She has a sense of self-worth.
- 196. _____ She has someone to whom she can gripe and complain.
- 197. _____ She has a need to have people appreciate her.
- 198. _____ She is able to cover up her distaste for something with a smile.
- 199. _____ She is able to go out with "the girls" and have a good time.
- 200. _____ She is a good follower.
- 201. _____ She is eager to please others.
- 202. _____ She is in love with life.
- 203. _____ She is a "perfectionist" in carrying out good nursing care.
- 204. _____ She inspires confidence in those around her.
- 205. _____ She is not wholly dedicated to her profession.
- 206. _____ She is one who may be considered as a chronic complainer.
- 207. _____ She is well informed on things outside of nursing.
- 208. _____ She is willing to do things because they are expected of her.
- 209. _____ She looks for responsibility.
- 210. _____ She thinks she has some reason or reasons for quitting training.
- 211. _____ She needs to "get things off her chest" occasionally.
- 212. _____ She often complains about her hours of work.
- 213. _____ She is willing to contribute more than half to make her relationships with others successful.
- 214. _____ She remembers the people judge her profession by her actions.
- 215. _____ She seldom lets anyone know how she feels.
- 216. _____ She read much material on nursing and decided it was for her.
- 217. _____ She really likes only one type of person.
- 218. _____ She understands the problems of those who just make it through training.
- 219. _____ She views the work in the hospital as a challenge to her.
- 220. _____ She was a hard worker in those projects in which she participated: pep rallies, school dances, class projects, etc.
- 221. _____ She was brought up in a home which lacked a great deal of love in it.
- 222. _____ Sometimes she's sweet and sometimes she's sour.
- 223. _____ Sometimes she cuts work to study for a mid-term examination which is due.
- 224. _____ Sometimes she is tempted by the higher salaries earned by other positions outside of nursing.
- 225. _____ Strives to do better and better so her family will be proud of her.

- 226. _____ Swallows the lump in her throat when she is bawled-out by a doctor.
- 227. _____ Spends her free time "goof off" with the gang.
- 228. _____ Spends most of her time studying nursing.
- 229. _____ She was one who didn't run away or get hysterical when someone got hurt on the playground.
- 230. _____ She was permitted to date in high school.
- 231. _____ Takes an active part in her school sports.
- 232. _____ Takes changes in her stride and becomes even more determined to succeed.
- 233. _____ Talking about things which are taboo in society today.
- 234. _____ Taking an active part in student nurse organizations.
- 235. _____ Talking over her problems with someone before they influence her to a great extent.
- 236. _____ Talking with her family about her problems while in training.
- 237. _____ Talks easily and is at ease with instructors.
- 238. _____ The economic status of her family helped her determine which school of nursing to enter.
- 239. _____ The patients cooperate with her.
- 240. _____ The patient immediately accepts the student as a nurse who is going to help him to the road of recovery.
- 241. _____ The patients feel that the student nurse is privileged to be of any help to them.
- 242. _____ Thinks of the other student nurses and herself as one big family.
- 243. _____ Tries not to show personal problems, emotions, feelings, etc. to anyone.
- 244. _____ Tries to appear as an "artificial saint".
- 245. _____ Tries to be cheerful by being "gushy."
- 246. _____ Tries to give the same kind of treatment to all patients regardless of their social position.
- 247. _____ Tries to widen her knowledge of other things on her own.
- 248. _____ Truly accepts a person for what he is without judgment.
- 249. _____ Trusts herself to keep things quiet that should be kept quiet.
- 250. _____ Uses interests outside of nursing to communicate with patients.
- 251. _____ Wants marriage and children as much as she wants to be a nurse.
- 252. _____ Wants to be a good nurse but doesn't reach for "stars" constantly.
- 253. _____ Wants to demonstrate feelings of love and care which she has always wanted but never received.

- 254. _____ Wants to get married some day and gives considerable thought to what the future might hold along these lines.
- 255. _____ Wants to help people directly rather than indirectly.
- 256. _____ Wants to learn the class material to pass her board examinations.
- 257. _____ Wants to learn the class material for the patient's welfare.
- 258. _____ Wants to travel a little and see the world before she gets tied down.
- 259. _____ Was considered a "book worm" when she was in high school.
- 260. _____ Was not particularly interested in nursing until she entered training.
- 261. _____ Was once a "tomboy" in her activities.
- 262. _____ Was taught at an early age to do things on her own.
- 263. _____ When she first got on the floor, she found it strange and frightening.
- 264. _____ When she needs them, she knows where she can find many good friends to listen to her.
- 265. _____ When she was selecting nursing as a profession, she secretly wasn't sure if she were choosing correctly.
- 266. _____ Will disagree with her family.
- 267. _____ Willing to do extra work to further her knowledge and understanding of a disease or question.
- 268. _____ Willing to help classmates and friends with their problems.
- 269. _____ Wishes she could work more often in the hospital.
- 270. _____ Wondering occasionally during training just why she is in training.
- 271. _____ Worked at a job giving assistance as a librarian.
- 272. _____ Working in a department store before entering nurse training.
- 273. _____ Worries about a test coming up.
- 274. _____ Worries some about her grades.
- 275. _____ Writes home regularly to her family.

APPENDIX B

ITEM FACTOR LOADINGS OF THE 200 ITEMS USED FOR ROTATION

Item Number	I	II	III	IV	V	VI	VII	h^2
1	39	17	-12	01	-08	-02	-07	21
2	45	05	-29	04	09	-12	-32	42
3	59	-45	-19	-02	-31	-08	-07	35
4	26	34	07	08	-06	-09	26	27
6	57	-01	-15	06	-08	-14	-03	38
7	21	09	-20	-14	-45	09	16	35
10	-02	-42	07	-19	-38	15	-16	41
11	21	53	14	14	19	-10	14	39
13	48	-21	-46	-02	-47	-16	-15	76
14	00	-67	-18	-19	-47	14	-09	77
15	-08	38	-20	-10	14	-20	-03	26
16	29	-09	02	18	-02	-11	04	14
17	23	28	-10	09	-15	-09	-04	18
18	01	35	-13	06	03	04	-02	15
19	21	40	06	17	11	-14	01	27
20	57	-11	-24	08	-09	-17	-12	45
21	24	35	11	15	02	-15	01	24
22	04	08	-04	-06	-42	-02	08	20
23	33	-06	-12	-01	-20	-04	-07	17
25	-16	11	-13	-11	-25	19	00	17
26	-25	67	-04	-09	22	20	-30	70
27	35	02	-17	07	-01	-11	-42	35
28	-05	-60	-18	-24	-34	18	-24	66
29	-13	17	02	00	06	05	24	11
30	14	23	00	08	05	-04	-38	23
31	30	04	-23	04	-20	-12	04	20
32	-02	19	-15	-07	11	07	-32	32
34	43	-07	-28	02	-15	-07	-21	34
35	-08	32	07	-07	06	10	22	18
36	28	-05	-22	-04	02	-04	-30	22
37	07	-77	-12	-10	-36	-01	-31	85
39	34	-18	-16	01	-24	-09	-28	32
40	-16	81	29	15	43	-03	-01	97
41	06	-48	-20	-11	-25	04	-14	37
42	70	-27	-19	-02	-19	-09	-37	78
43	45	-12	-27	-02	-38	-08	07	45
45	-05	-20	11	-09	-64	07	-01	48
46	-08	-35	03	-14	-46	11	-18	40
48	15	-23	-16	-04	-45	-02	-10	32

APPENDIX B (Contd.)

Item Number	I	II	III	IV	V	VI	VII	h ²
49	01	72	05	04	-02	02	29	61
51	04	46	-01	-02	-11	05	-01	23
52	01	36	02	25	37	15	-11	36
53	23	21	-01	10	15	-08	-18	17
56	30	06	-49	-13	06	16	-18	41
57	03	-10	-33	-16	-29	10	21	28
58	17	-62	-24	-14	-33	-06	-04	60
59	16	30	-25	-03	-17	-02	-06	21
60	08	02	-32	-06	-22	02	-15	18
62	17	-58	-20	-13	-27	09	-06	51
63	20	58	-20	01	05	00	-03	42
64	17	54	-15	09	17	-09	10	40
65	35	20	-17	08	-17	-14	10	26
67	06	56	-02	-06	17	-07	-07	36
70	-12	59	04	-07	22	14	-10	45
71	11	52	12	11	22	-05	08	37
73	21	43	-14	03	-17	-04	20	32
74	08	18	-13	02	-31	-05	-10	16
75	02	27	-22	-10	-41	06	14	32
78	26	44	06	08	-02	-05	21	32
79	10	80	15	10	-09	-04	23	75
80	23	71	17	14	-04	-09	31	71
81	-08	08	23	12	13	-06	11	11
82	28	-11	-13	04	-31	-11	25	28
83	20	-02	-34	-11	-23	06	02	22
84	17	-45	-20	-13	-37	08	17	46
86	-05	-17	-19	-13	-03	12	-32	20
87	-16	82	16	10	-03	-04	-06	74
88	-18	-51	-16	-10	-35	04	-08	46
89	38	-11	-47	-14	-31	06	-25	56
91	04	90	-02	06	-04	-02	00	82
92	20	41	05	04	-05	-04	-07	22
93	13	64	25	14	-06	-09	20	56
95	59	-23	-20	07	-30	-19	-00	57
96	21	46	12	10	-07	-10	-08	30
97	01	-01	-10	-01	-32	-03	-07	22
98	29	31	-10	04	-16	-07	-15	24
99	30	21	-09	00	14	00	-14	18
100	53	-13	-29	10	-14	-18	-35	57
101	-05	-37	10	-05	-37	05	-09	30
102	24	30	-06	-02	-06	-01	27	23
103	36	-10	-20	00	-15	-07	-09	22
105	25	-11	-18	-06	-18	04	-26	21

APPENDIX B (Contd.)

Item Number	I	II	III	IV	V	VI	VII	h ²
106	14	38	00	09	-13	-11	03	20
107	33	-09	-16	-08	-36	03	-09	29
108	41	-63	-38	-17	-45	04	06	95
113	18	30	12	11	09	-09	06	17
114	06	48	00	-03	03	03	-01	24
115	-03	08	00	05	02	-05	31	11
117	12	48	10	03	-08	02	13	28
119	49	-11	-19	-04	-11	-05	-16	33
120	06	39	05	03	03	01	11	17
121	21	27	-17	02	02	-06	18	18
123	24	60	-16	04	07	-06	-05	45
124	15	-25	-24	-12	-33	05	-25	33
127	-26	46	22	05	-10	03	35	46
128	10	-49	-33	-15	-15	10	-31	51
130	09	51	-15	-05	18	05	-29	41
131	31	11	-20	01	-23	-07	-02	26
132	12	42	16	05	06	-01	03	23
133	01	25	07	10	08	-05	-10	10
134	-34	29	06	-04	11	14	-12	25
135	05	85	12	12	28	-04	14	85
136	-05	67	03	-02	17	08	03	49
138	19	-37	-23	-05	-16	36	-03	39
139	20	54	11	-05	14	10	05	40
140	27	36	-12	-01	06	00	-02	22
141	18	65	-01	07	11	-06	02	48
142	26	27	-04	06	11	-05	-13	18
143	15	-38	-29	-12	-20	09	-65	73
144	20	58	-14	-04	32	05	-13	52
146	15	61	11	10	00	-08	03	42
147	18	-07	-01	-01	-30	-03	35	25
148	04	38	00	08	-09	00	-02	16
149	-03	46	-12	-16	-10	19	-05	30
150	08	11	-31	-18	-15	11	01	18
152	13	70	18	17	06	-10	13	60
153	03	66	02	04	07	-02	26	51
156	17	41	16	11	-12	-09	06	26
157	42	35	-15	02	-05	-05	-21	37
158	-39	41	30	-03	12	11	15	46
160	65	-28	-22	04	-35	-14	-16	72
161	19	-17	-29	-10	-17	04	-15	21
162	-23	57	24	19	-25	-10	21	59
164	08	-08	-11	-11	04	12	-45	26
165	34	14	-20	-08	-16	04	-26	28

APPENDIX B (Contd.)

Item Number	I	II	III	IV	V	VI	VII	h ²
167	42	06	-19	-08	-14	01	-06	23
168	25	41	-08	00	-11	00	14	27
169	27	08	-21	-07	-36	02	-01	26
170	16	42	-07	03	-17	-04	15	26
171	29	23	-05	05	-11	-05	-07	16
172	07	-52	-16	-12	-22	06	-41	54
173	09	42	05	06	-13	-04	24	27
175	-01	71	09	05	08	00	-07	53
176	24	37	-13	-02	-10	00	-14	24
179	37	-01	-03	01	-14	-06	-13	18
180	12	33	05	04	-04	-03	27	20
181	-08	55	11	04	04	04	10	34
182	-14	-31	10	-07	-28	07	-11	17
184	01	42	11	00	07	04	54	49
186	29	21	-10	01	-05	-05	-07	15
187	58	-35	-26	28	-35	-18	-30	85
188	07	36	-05	-02	-21	03	-06	18
189	22	-21	-11	-06	-64	01	10	53
190	06	13	-13	-02	-33	-02	02	15
191	29	-51	-39	-10	-33	09	-31	72
194	10	36	-25	-20	25	22	02	35
195	20	25	-16	06	-06	-08	25	20
196	52	-43	-37	-03	-61	-01	-14	98
197	15	01	-09	-05	-67	06	11	50
198	02	87	02	08	18	01	-14	82
199	61	00	-37	-04	-27	-07	-43	77
200	04	54	15	05	-18	-02	09	36
201	23	20	-22	-06	-21	04	-51	45
202	05	57	03	03	-28	00	-02	41
203	-12	65	-06	-04	32	12	-20	60
205	27	-55	-17	-08	-39	-02	-16	59
206	-01	-49	-31	-01	-15	03	-17	39
207	00	49	13	23	13	-11	03	34
208	22	-39	-19	-15	-18	11	-56	62
209	01	47	-02	-05	08	10	-30	33
213	34	16	-05	02	-15	-06	-06	17
214	25	24	06	11	-07	-09	02	15
215	-39	72	15	05	36	09	-03	83
216	-02	-27	-12	-12	-18	16	-15	18
217	-05	-36	-12	-19	-18	16	-52	51
218	41	03	-16	-02	-11	-05	-41	38
220	44	-05	-15	09	-06	-13	-30	34
223	02	-65	-28	-10	-12	04	-48	76

APPENDIX B (contd.)

Item Number	I	II	III	IV	V	VI	VII	h^2
225	15	15	-21	-05	-23	03	-45	35
226	37	35	-28	-05	02	03	-52	61
227	-02	56	05	02	-11	00	21	37
229	13	-18	-15	10	20	-07	-13	14
230	61	-04	-34	07	-27	-16	-18	63
231	28	57	-06	08	02	-07	-06	42
232	26	27	-02	10	12	-08	-34	29
233	15	-09	-19	-07	-47	00	-03	29
233	26	43	02	20	-08	-20	-07	34
234	30	31	09	13	07	-12	-04	23
237	30	40	09	-03	-12	06	16	23
238	-13	38	02	10	-09	-11	-08	21
239	18	55	12	05	10	-06	01	33
240	04	74	-06	03	26	02	-06	57
242	07	40	-31	-07	-06	10	-46	49
244	04	-25	-25	-14	12	31	-43	48
245	-20	45	17	02	00	06	-43	42
247	-01	22	-23	-02	03	01	-04	14
251	19	25	-05	-02	-07	03	-34	18
253	00	23	-42	-10	-24	-01	-44	75
254	51	-05	-16	-16	-20	15	-27	19
256	02	38	03	07	04	-03	-07	20
257	15	-14	03	05	-31	06	-05	13
260	01	-02	-08	05	05	18	-27	20
262	29	-48	-42	00	-19	29	-02	64
263	34	29	04	05	-11	02	28	18
264	-05	-05	-18	-02	-55	-02	-05	34
265	04	-50	-22	-06	-43	-02	11	55
266	23	-30	-17	04	-05	-10	-23	46
268	52	02	-00	-07	-38	04	11	16
270	01	-35	-26	-10	-45	01	01	45
273	22	60	11	12	-02	-09	07	43
275	24							

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AUTOBIOGRAPHY

I, John Craig South, was born in Albany, New York, June 24, 1931. I received my secondary school education at Coshocton High School, Coshocton, Ohio, and my undergraduate education at Muskingum College which granted me the Bachelor of Arts degree in 1953. From the Ohio State University I received the Master of Arts degree in 1957. During the last two years of my graduate program, I served as a Teaching Assistant in the Department of Psychology.